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# LEVEL news

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*... a monthly bulletin from Canadian Hydrographic Service*

About the monthly Water Level bulletin

November Precipitation Over the Great Lakes

As a percentage of the long-term November average:

| | |
|---|---|
| Great Lakes Basin | 76% |
| Lake Erie (including Lake St. Clair) | 123% |
| Lake Superior | 52% |
| Lakes Michigan-Huron | 67% |

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**Seasonal Temperature and Precipitation Forecasts on the Internet**

## Below Average Supplies Lead to Above Average Declines

Water supplies to all of the Great Lakes were below average during November. Water supplies to Lakes Superior and Michigan-Huron were particularly low. As a result of the low supplies, the monthly mean levels of all of the lakes fell by more than average from October to November.

Water levels on all of the Great Lakes remain below average. Lake Superior began November 14 cm below its long-term average and 2 cm higher than it was at the same time last year. Lakes Michigan-Huron began the month 44 cm below average, 3 cm below chart datum and 9 cm lower than it was one year ago. Lakes St. Clair, Erie and Ontario began November around 20 cm below average. These lakes began December 14, 2 and 16 cm lower than they were last year, respectively.

The level at Montréal Harbour remained below chart datum for all but 5 days during November. Montréal Harbour levels averaged 5.44 m during the month, 11 cm below Chart Datum, 106 cm below the 1967-2001 November average, and a new period-of-record low for the month.

Water levels on all lakes are expected to decline during December; however, lakes Erie and Ontario are likely nearing the end of their seasonal declines and should begin to level out over the next several weeks. Montréal harbour is expected to remain below average and below chart datum during the month of December.

## Seasonal Temperature and Precipitation Forecasts on the Internet

Environment Canada's seasonal temperature and precipitation forecast package can be found on the Internet at: weatheroffice.ec.gc.ca.

If you visit the forecast package site you will find the latest information on:

- Current temperature and precipitation forecasts;
- Skill of the forecast system;

Lake Ontario 100%

**Note**: These figures are preliminary.

November Outflows From the Great Lakes

As a percentage of the long-term November average:

| | |
|---|---|
| Lake Superior | 100% |
| Lake Erie | 93% |
| Lake Huron | 89% |
| Lake Ontario | 94% |

**Note**: These figures are preliminary.

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Summary information for "LEVEL*news*"

- Verification of past forecasts;
- Observed climatology of temperature and precipitation; and
- Continental snow coverage, sea ice coverage, and sea surface temperature anomalies.

The site also includes links to the Environment Canada El Niño and La Niña pages. The ENSO phenomena (El Niño and La Niña) is one of the major factors influencing the year-to-year fluctuations of seasonal temperature and precipitation anomalies in Canada. You can learn more about the worldwide and regional effects of the phenomena as well as follow its evolution by going to the Environment Canada El Niño and La Niña web pages.

## Lake Erie-Niagara River Ice Boom

Each year since 1964, Ontario Power Generation and the New York Power Authority have installed the Lake Erie-Niagara River Ice Boom at the head of the Niagara River. The use of the ice boom is authorized by the International Joint Commission and is overseen by the Commission's International Niagara Board of Control.

The boom, which is 2700 m long, is made up of floating steel pontoons joined together to form 22 linked spans that are attached to the bottom of Lake Erie by steel cables. The purpose of the boom is to accelerate the formation of an ice arch that naturally forms in the eastern end of Lake Erie most winters and stabilize the ice cover once it forms. The boom also reduces the severity and duration of lake ice entering the Niagara River as the result of storms over the lake. It lessens the probability of large-scale ice blockages in the river that can lead to hydropower generation reductions, shoreline flooding and property damage.

Installation of the boom spans can begin on whichever comes first: December 16th, or when the Lake Erie water temperature as measured at the Buffalo Water Intake declines to 4 C. On average, the boom has been opened during the first week in April; however, last season the boom was completely opened and removed on March 7th since an ice cover had not formed on Lake Erie. This was the third year in the past 50 years, but the second in the past five years, that an ice cover did not form on Lake Erie. To date, the earliest and latest dates for ice boom opening have been March 5, 1998 and May 3, 1971, respectively.

For more information on the Lake Erie-Niagara River Ice Boom please visit the International Niagara Board of Control's website.

## Seasons Greetings

Everyone involved in the preparation and distribution of LEVELnews would like to wish you a happy Holiday Season and a safe and prosperous New Year.

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URL: http://www.on.ec.gc.ca/water/level-news/ln200212_e.html